Comptroller General
of the United States

Washington, D.C. 20548

Decision

Matter of: EMC Corporation

File: B-277133

Date: September 4, 1997

Carolyn G. Hyde for the protester.
Lynn W. Flanagan, Esq., Department of Agriculture, for the agency.
David Ashen, Esq., and John M. Melody, Esq., Office of the General Counsel, GAO, participated in the preparation of the decision.

DIGEST

Protest that agency improperly issued delivery order for noncompliant direct access storage devices (DASD) system is denied where, although compliance with stated storage capacity and access time requirements could only be determined with certainty once DASD system was installed and used in the processing of the agency's particular data mix, agency reasonably determined that quoted system complied with the requirements.

DECISION

EMC Corporation protests the issuance of a delivery order to International Business Machines Corporation (IBM) against its General Services Administration (GSA) Federal Supply Schedule contract. The purchase order was issued on the basis of responses received to request for quotations (RFQ) No. 00-97-1012, issued by the Department of Agriculture for direct access storage devices (DASD) for the agency's National Information Technology Center (NITC). EMC asserts that IBM's proposed DASD system does not satisfy two salient characteristics set forth in the solicitation.

We deny the protest.

The RFQ requested pricing for a DASD system, comprised of items available on GSA schedules, which would provide storage with "a minimum guaranteed capacity of 720 gigabytes (GB) of data" and an "[a]verage response time of 10 ms [milliseconds] or less for any data set under all conditions (e.g., during data recovery, volume rebuild or reconstruction)." As noted by Agriculture prior to closing, however, respondents were not required to offer 720 GB of actual, physical storage, but instead could meet the requirement with a virtual storage system that used data compression techniques that permitted 720 GB of data to be stored in a system of lesser physical capacity. Specifically, the agency was asked:

> Does 720 Gigabytes refer to the physical, or virtual capacity of the DASD storage subsystem? If an offeror uses data compression to provide larger user capacity on a lesser amount of physical capacity, what compression ratios should be assumed? Is all of the data to be stored on the proposed data storage subsystem compressible, or is any of the data already compressed before being written to the storage subsystem such as . . . DB2 . . . , etc.?

In its written response furnished to potential respondents, Agriculture stated that:

> The 720 Gigabytes refers to virtual capacity, with the capability to store 720 Gigabytes of data presently stored on IBM 3390-3 DASD. [Emphasis in original.]
>
> NITC does not intend to specify a compression ratio to be used here.
>
> There will be some data (e.g., DB2) stored on this equipment that is already compressed.

The RFQ required vendors to guarantee the actual performance of their systems as follows:

> The offeror guarantees that any DASD subsystem furnished as a result of this RFQ will meet or exceed the minimum performance level specified above, for any data stored on the DASD subsystem. The Government will monitor the performance of the subsystem(s) for a period of 120 calendar days from the date of installation. . . .
>
> Should the subsystem fail to meet the required performance level, the offeror will provide, at no additional cost to the Government, any additional equipment necessary to meet the specified performance level. . . .

EMC asserts that IBM's proposed system failed to comply with the RFQ requirement for a minimum storage capacity of 720 GB. IBM proposed its model 9393 RAMAC Virtual Array Storage Model 2 DASD system, which the descriptive literature included in its quote described as employing built-in compression and compaction algorithms to provide an effective disk storage capacity of up to 726 GB, depending on the particular configuration of capacity increments selected. In its specific response to the specifications, IBM stated that it "guarantees that the one (1) RAMAC Virtual Array which is provided will have a minimum capacity of 720 gigabytes (GB) of data in the 3390 format. A conservative compression ratio has been used to determine that the RAMAC Virtual Array will have a minimum capacity of 720 GB." However, IBM described the three standard storage increments which it proposed by reference to their standard denominations in the

descriptive literature: "420 GB EFF. CAP."; "EFF. CAP. INCREMENT-210 GB"; and "EFF. CAP. INCREMENT-80 GB." Noting that the capacities of the increments as described in the descriptive literature totaled only 710 GB, EMC contends that IBM's proposed system is noncompliant with the 720 GB storage capacity requirement.

An RFQ leading to the issuance of a delivery order under an FSS contract must provide for a fair and equitable competition, and issuing an order for items that deviate from requirements set out in an RFQ may, at least in certain circumstances, be improper. L.A. Sys., Inc., B-276349, June 9, 1997, 97-1 CPD ¶ 206 at 3-4. In this case, however, we need not consider whether circumstances existed that might permit the agency to issue a delivery order that deviated from the RFQ terms, since we find that the agency reasonably determined that IBM's proposed solution satisfied both of the RFQ requirements at issue.

First, the agency reasonably determined that IBM's proposed "virtual" storage system met the storage capacity requirement. In our view, EMC's focus on the nominal capacity of the proposed storage increments simply ignores the nature of compression as used in a "virtual" DASD system. Agriculture and EMC agree that "virtual" storage subsystem capacity is difficult to verify until the system is deployed because the actual storage capacity depends upon such things as the proposed compression algorithm and how "compression friendly" the data is. Here, IBM's descriptive literature for the specific model 9393 RAMAC Virtual Array Storage Model 2 DASD system it quoted reported "typical compression ratios of 2:1 for cache and 3.6:1 for disk storage which are used to calculate effective cache and storage capacities," but noted that "[g]reater ratios have also been observed for both cache and disk." IBM, apparently drawing upon its knowledge of NITC's data requirements as acquired in the course of serving as NITC's DASD supplier for more than 6 years, in effect guaranteed a disk compression ratio of 3.65:1 (so as to achieve the guaranteed overall virtual storage capacity of 720 GB). Although slightly higher than the typical 3.6:1 compression ratio upon which the nominal 710 GB storage capacity of the quoted components was based, this minimal increase was not inconsistent with IBM's descriptive literature, which noted that greater than 3.6:1 ratios had been observed, nor with the experience of large system customers such as Agriculture, which, according to the agency, have experienced compression ratios as high as 5:1. In these circumstances, where the actual storage capacity of the quoted system can only be determined in operation using actual Agriculture data, the record indicates that the minimal increase in compression ratio--relative to that typically encountered with the proposed DASD system--which was necessary to furnish the required capacity was not unlikely, and the resulting contract included a mechanism by which any shortfall in the guaranteed system performance will be remedied at no additional cost to the government, Agriculture reasonably determined that IBM's guarantee of an overall 720 GB storage capacity satisfied the specification's storage capacity requirement.

Second, EMC asserts that IBM's proposed system failed to comply with the RFQ requirement for an "[a]verage response time of 10 ms [milliseconds] or less for any data set under all conditions." EMC bases its assertion on IBM sales literature downloaded from the Internet which indicates a minimum random access time of 11.2 milliseconds for a model 9393 Model 002 RAMAC Virtual Array Storage system--apparently the model quoted by IBM--with a 290-GB capacity when processing the most difficult, "cache hostile" data.

We find EMC's position to be unpersuasive, as it appears to be based on an unsupported, unwarranted assumption as to the actual data processed by Agriculture. Specifically, Agriculture reports that its typical work load is not "cache hostile" in its entirety. In this regard, the agency calculates from the data cited by EMC, that even if as much as 75 percent of its data were "cache hostile," and the remainder were in the next most difficult category ("cache uniform," with a minimum random access time of 5.9 milliseconds), the overall minimum random access time would be only 9.875 milliseconds. Indeed, Agriculture notes that it is currently experiencing an access time of slightly less than 10 milliseconds using equipment which was installed in 1989 and is at least two generations out-of-date. EMC has failed to demonstrate that, given the actual data processed by Agriculture, the agency acted unreasonably in concluding that IBM's quoted DASD system would satisfy the access time requirement for any data set likely to be encountered by the agency.[1]

The protest is denied.

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[1]EMC also objects that, after issuance of the delivery order, IBM proposed and Agriculture agreed to the substitution of IBM's newer, better performing model 9393 RAMAC Virtual Array Storage Model (Turbo) T42 DASD system for the model 9393 RAMAC Virtual Array Storage Model 2 DASD system originally quoted. EMC's objection, however, concerns the administration of an existing contract, which is not for consideration under our bid protest process. 4 C.F.R. § 21.5(a) (1997). In any case, even if the substitution had occurred prior to issuance of the delivery order, under FAR § 52.215-10, which was incorporated into the RFQ, a procuring agency may accept a late modification of an otherwise successful offer where, as here, that modification results in terms more favorable to the government. Human Resource Sys., Inc.; Health Staffers, Inc., B-262254.3 et al., Dec. 21, 1995, 96-1 CPD ¶ 35 at 9 n.3.